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10/524,142

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Dragan Petrovic

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EXAMINER

CHAUDRY, MUJTABA M

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,142	<b>Applicant(s)</b> PETROVIC ET AL.	
	<b>Examiner</b> M. MUJTABA K. CHAUDRY	<b>Art Unit</b> 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 14 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/19/2005</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Claims 1-17 are presented for examination. Preliminary Amendment filed February 11, 2005 has been received.

#### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. The priority date granted is August 13, 2002.

#### ***Information Disclosure Statement***

The references listed in the information disclosure statements (IDS) submitted were considered. The submission is in compliance with the provisions of 37 CFR 1.97.

#### ***Oath/Declaration***

The Oath filed September 08, 2005 complies with all the requirements set forth in MPEP 602 and therefore is accepted.

#### ***Drawings***

The drawings submitted February 11, 2005 are objected to because:

- Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid

- abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
- Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
  - Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

- Figure 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
- Figure 5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
- Figure 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Appropriate correction is requested.

### *Specification*

#### **608.01(a) [R-5] Arrangement of Application**

##### **37 CFR 1.77. Arrangement of application elements.**

- (a) The elements of the application, if applicable, should appear in the following order:
- (1) Utility application transmittal form.
  - (2) Fee transmittal form.
  - (3) Application data sheet (see § 1.76).
  - (4) Specification.
  - (5) Drawings.
  - (6) Executed oath or declaration.
- (b) **The specification should include the following sections in order:**
- (1) Title of the invention, which may be accompanied by an introductory portion stating the name, citizenship, and residence of the applicant (unless included in the application data sheet).
  - (2) Cross-reference to related applications (unless included in the application data sheet).
  - (3) Statement regarding federally sponsored research or development.
  - (4) The names of the parties to a joint research agreement.
  - (5) Reference to a "Sequence Listing," a table, or a computer program listing appendix submitted on a compact disc and an incorporation-by-reference of the material on the compact disc (see § 1.52(e)(5)). The total number of compact discs including duplicates and the files on each compact disc shall be specified.
  - (6) **Background of the invention.**
  - (7) **Brief summary of the invention.**
  - (8) **Brief description of the several views of the drawing.**
  - (9) **Detailed description of the invention.**
  - (10) A claim or claims.
  - (11) Abstract of the disclosure.
  - (12) "Sequence Listing," if on paper (see § 1.821 through 1.825).
- (c) The text of the specification sections defined in paragraphs (b)(1) through (b)(12) of this section, if applicable, should be preceded by a section heading in uppercase and without underlining or bold type.

**The Specification does not conform to the guidelines set forth in the MPEP as noted above.**

***Claim Objections***

Claim 14 is objected to because of the following informalities:

- The term “signaled” is misspelled.

Appropriate correction is required.

Claim 15 is objected to because of the following informalities:

- The term “signaling” is misspelled.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-17 are rejected, directly or indirectly, under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For example:**

- In claim 1, it is not clear how the configuring and pre-configuring are different since configuration takes place prior to transmission. Secondly, if something is configured then it is impossible to later "pre-configure" it.
- In claim 2, it is not clear how the configuring and pre-configuring are different since configuration takes place prior to transmission. Secondly, if something is configured then it is impossible to later "pre-configure" it.

- Claim 3 mentions “a plurality of data flows” and it is not clear if these are the same data flows mentioned in claims 1 and 2. Similarly, claim 3 mentions “a plurality of configured HARQ processes” and it is not clear if these are the same plurality of HARQ processes as in the independent claims.
- Claim 4 recites, "limited functionality" which is not clear. The term "limited" is relative and therefore does not define the claim in an accurate manner. Similarly, claim 4 mentions “a plurality of configured HARQ processes” and it is not clear if these are the same plurality of HARQ processes as in the independent claims.
- Claim 5 recites, “**maximum** possible/**lower** modulation coding schemes" which are relative terms and therefore does not define the claim in an accurate manner.
- Claim 6 recites, “**maximum** possible/**lower** modulation coding schemes" which are relative terms and therefore does not define the claim in an accurate manner.
- Claim 8 recites, “**smaller** soft buffer" which is a relative term and therefore does not define the claim in an accurate manner.
- Claim 10 appears to be a dependent claim but does not state the dependency. Similarly, claim 10 mentions “an HARQ process” and it is not clear if this is the same HARQ process as in the independent claims.
- Claim 16 recites “explicitly or implicitly” but the claim does not show either one of these processes is performed.
- Claim 17 recites “explicitly or implicitly” but the claim does not show either one of these processes is performed.



Appropriate correction is requested. To the extent possible, Examiner will make interpretations in accordance with MPEP 2111.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

**Claims 1-17 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 10524141. Although the conflicting claims are not identical, they are not patentably distinct from each other.**

For example, claim 1 of the present application teaches, a method of HARQ process configuration involving packet combining in a mobile communication system, wherein a plurality of HARQ processes are established in a transmitter and a receiver comprising the steps of: configuring a plurality of HARQ processes of unrestricted use for data flows having different QoS requirements and pre-configuring at least one reserved HARQ process for data flows of specific QoS requirements. Whereas claim 9 of copending application, 10524141 teaches a method of a plurality of hybrid HARQ processes including at least one of a reserved and/or additional HARQ process in a mobile communication system, wherein data flows are transmitted from a transmitter to a receiver comprising the steps of: scheduling a number of transmission time intervals (TTI) in advance for a plurality of HARQ processes for transmission to the receiver; predicting the channel conditions for the transmitted HARQ processes over at least one of the scheduled TTI; and assigning HARQ processes for transmission in accordance with the predicted channel conditions and available HARQ processes. The Examiner would like to point out that one is just an obvious variation of the other and not patentably distinct.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 103***

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vayanos et al. (herein after: Vayanos, USPN 6901063) further in view of Das et al. (herein after: Das, USPN 7292854).**

As per claim 1, Vayanos substantially teaches (i.e., abstract) a method of HARQ process configuration involving packet combining in a mobile communication system, wherein a plurality of HARQ processes are established in a transmitter (i.e., Figure 1) and a receiver (i.e., Figure 1) comprising the steps of: configuring a plurality of HARQ processes of unrestricted use for data flows having different requirements (i.e., Figure 4A, reference number 414) and pre-configuring at least one reserved HARQ process for data flows of specific requirements (i.e., Figure 4A, reference number 412).

Vayanos does not explicitly teach configuring having different quality (QoS) requirements as stated in the present application.

However, Das teaches, in an analogous art, (i.e., abstract) a method for transmitting control information in a wireless communication network is provided in which one or more prescribed fields in an existing control channel structure are modified to enable express signaling directly between a base station and at least one mobile station without the need to traverse a backhaul path between the base station and the base station controller. More specifically, prescribed fields in the control channel are modified to carry one or more prescribed message identifiers that convey different types of information, e.g., an identifier for indicating which mobile station is the intended recipient, an identifier for indicating the type of message being transmitted (e.g., broadcast, multicast, etc.), a message identifier indicating the available Walsh space for data transmission, and so on. In this manner, existing control channel structures and formats can accommodate many different signaling functions directed to either single or multiple mobile stations. Particularly, Das teaches (i.e., col. 9, lines 43-66) to configure having different quality requirements. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to configure HARQ processes based on different quality (QoS) requirements within the configuration process of Vayanos. This modification would have been obvious to one of ordinary skill because one of ordinary skill in the art would have recognized that by utilizing different quality measurements would have significantly reduced the overall delays in the transmission process (i.e., Das, col. 2).

As per claim 2, Vayanos substantially teaches (i.e., abstract) a method of HARQ process configuration in a mobile communication system, wherein a plurality of HARQ processes are established in a transmitter (i.e., Figure 1) and a receiver (i.e., Figure 1) comprising the steps of: configuring a minimum number of HARQ processes (i.e., Figure 4A, reference number 414)

and pre-configuring at least one additional HARQ process for specific data flows of high priority (i.e., Figure 4A, reference number 412).

Vayanos does not explicitly teach configuring according to a system parameter as stated in the present application.

However, Das teaches, in an analogous art, (i.e., abstract) a method for transmitting control information in a wireless communication network is provided in which one or more prescribed fields in an existing control channel structure are modified to enable express signaling directly between a base station and at least one mobile station without the need to traverse a backhaul path between the base station and the base station controller. More specifically, prescribed fields in the control channel are modified to carry one or more prescribed message identifiers that convey different types of information, e.g., an identifier for indicating which mobile station is the intended recipient, an identifier for indicating the type of message being transmitted (e.g., broadcast, multicast, etc.), a message identifier indicating the available Walsh space for data transmission, and so on. In this manner, existing control channel structures and formats can accommodate many different signaling functions directed to either single or multiple mobile stations. Particularly, Das teaches (i.e., col. 9, lines 43-66) to configure having different quality requirements. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to configure HARQ processes based on different quality parameters within the configuration process of Vayanos. This modification would have been obvious to one of ordinary skill because one of ordinary skill in the art would have recognized that by utilizing different quality parameters would have significantly reduced the overall delays in the transmission process (i.e., Das, col. 2).

As per claim 3, Vayanos substantially teaches, in view of above rejections, scheduling a plurality of data flows from at least one priority queue and emptying the priority queue to one or a plurality of configured HARQ processes for transmission (i.e., Figure 4A, reference numbers 412, 414 and 420).

As per claim 4, Vayanos substantially teaches, in view of above rejections, the reserved and/or additional HARQ process has a limited functionality compared with a plurality of HARQ processes (i.e., Figure 4A, reference numbers 412 and 414).

As per claim 5, Vayanos substantially teaches, in view of above rejections, the reserved and/or additional HARQ process supports a maximum possible/lower modulation coding scheme (MCS) level compared with the plurality of HARQ processes (i.e., Figure 4A and col. 4, lines 36-68).

As per claim 6, Vayanos substantially teaches, in view of above rejections, the reserved and/or additional HARQ process supports a maximum possible/lower transport format resource combination (TFRC) compared with the plurality of HARQ processes (i.e., Figure 4A and col. 4, lines 36-68).

As per claim 7, Das substantially teaches, in view of above rejections, the reserved and/or additional HARQ process supports Chase Combining or Incremental Redundancy according to available memory in the soft buffer (i.e., col. 6, lines 32-68).

As per claim 8, Vayanos substantially teaches, in view of above rejections, the reserved and/or additional HARQ process, a smaller soft buffer size is reserved at the receiver compared with that reserved for one of a plurality of HARQ processes (i.e., Figure 4A, reference numbers 410 and col. 7, lines 1-61).

As per claim 9, Vayanos substantially teaches, in view of above rejections, the transmitter signals to the receiver to use a separate re-ordering buffer for the reserved and/or additional HARQ process (i.e., Figure 4A and col. 7, lines 1-13).

As per claim 10, Vayanos substantially teaches, in view of above rejections, an HARQ process identification is signaled to the receiver (i.e., Figure 4A, reference number 430).

As per claim 11, Vayanos substantially teaches, in view of above rejections, the number of HARQ processes and/or functionality of additional processes are matched to the round trip delay (RTD) caused by transmission time and processing time at the receiver and the transmitter (i.e., Figure 5 and cols. 7-8).

As per claim 12, Das substantially teaches, in view of above rejections, the number of configured HARQ processes varies dynamically in accordance with a system parameter (i.e., col. 9).

As per claim 13, Das substantially teaches, in view of above rejections, the system parameter is one of round trip time, processing time, traffic burstiness, quality of service, modulation coding scheme, timing of shared channels and minimum transmission time interval (i.e., col. 9, lines 43-66).

As per claim 14, Vayanos substantially teaches, in view of above rejections, an HARQ process configuration is signaled from the transmitter to the receiver by HARQ protocol control packet (i.e., Figure 5 and col. 8, lines 25-64).

As per claim 15, Vayanos substantially teaches, in view of above rejections, an HARQ protocol control packet is identified by in-band signaling (i.e., Figure 5 and col. 8, lines 25-64).

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As per claim 16, Vayanos substantially teaches, in view of above rejections, control information may be signaled explicitly or implicitly (i.e., Figure 5 and col. 8, lines 36-54).

As per claim 17, Vayanos substantially teaches, in view of above rejections, control information may be signaled explicitly or implicitly (i.e., Figure 5 and col. 8, lines 36-54).



***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Additional pertinent prior arts are included herein for Applicant's review.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. MUJTABA K. CHAUDRY whose telephone number is (571)272-3817. The examiner can normally be reached on Mon-Fri 9-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on 571-272-6962.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Mujtaba K Chaudry/  
Primary Examiner, Art Unit 2112  
February 22, 2008